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09/901,193	07/10/2001	John W. Moreland		6015

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 09/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/901,193

Applicant(s)

MORELAND ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the mailing or post office address of each inventor. A mailing or post office address is an address at which an inventor customarily receives his or her mail and may be either a home or business address. The mailing or post office address should include the ZIP Code designation. The mailing or post office address may be provided in an application data sheet or a supplemental oath or declaration. See 37 CFR 1.63(c) and 37 CFR 1.76.

### ***Drawings***

2. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish drawings under 37 CFR 1.81. Two figures are described in the specification, but are not included in the file. No new matter may be introduced in the required drawings.

### ***Specification***

3. The disclosure is objected to because of the following informalities: The "Features of the Invention" section and "Detailed Description of Apparatus of the Invention" section are not in the proper format. It appears that the bulk of the "detailed description" is in applicant's "Features of the Invention" section and not in the "Detailed Description" section, where it

Art Unit: 2834

should be. Also, the examiner notes that the elements described in the "Features of the Invention" section lack drawing reference numbers.

For applicant's reference, the following is the proper format for applications. See also cited patents for examples of this format.

#### Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.  
  
Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
  - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the

Art Unit: 2834

applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet (37 CFR 1.52(b)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

Art Unit: 2834

- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not describe in such a way as to enable one skilled in the art to convert “nuclear energy” to “useable electric power” or how the transducers or circuit components are “stimulated” to “generate” electrical energy. Neither is it clear how energy is “generated” by the transducers. Is a nuclear reaction occurring in the transducers, and if so, what is the nuclear reaction? The invention appears to only be a means of converting electromagnetic wave energy (e.g., radio-waves) by means of an antenna array into electrical current using a semiconductor doped with a radioactive substance. While there is extensive

Art Unit: 2834

discussion regarding radioactive power, the "Detailed Description" portion of the specification merely sets forth a laundry list of what appears to be the preferred embodiment. Where are the AM radio signals transmitted from? Radioactively-transformed capacitors are used, but there is no disclosure of semi-conductor valves, transformers, diodes, inductors, etc. as claimed in claims 2 and 4-5. Further, what radioactive elements are used to "transform" the circuit elements? Is UO<sub>2</sub> the only possibility? Why or why not? These are only examples of where the description fails to provide sufficient disclosure to enable one to make and use the device.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitation "applying radioactive elements to transducers structured as radioactively transformed circuit components" is vague and indefinite. Are the circuits radioactively "transformed" before the radioactive elements are "applied" to the circuits? Recitation "applying oscillating waves and voltages to said transducers" is vague and indefinite. Is an oscillating wave the same as a voltage or different? What if the wave were an oscillating AC voltage? Recitation "collecting electrical energy generated by said transducers" is vague and indefinite. How is electrical energy "generated" by the transducers? In claim 6, recitation "receiving radio waves" is vague. Where are the radio waves being transmitted from, i.e., what is their source? In claim 7, recitation "...with the antenna and Earth's ground plane acting as the two capacitor plates of the tank circuit..." is indefinite since

Art Unit: 2834

“the tank circuit” lacks antecedent basis. Also, “Earth’s” should be --Earth--. In claim 8, recitation “...utilizing from whatever means available, in the absence of an external antenna and Earth ground plane, oscillating waves and voltages...” is vague and indefinite because it is not clear what the “whatever means available” are.

***Claim Rejections - 35 USC § 101***

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-8 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility. It is not clear how using the claimed radioactive-doped transducer in combination with a radio antenna receiving radio signals (whose power averages at best a few microwatts) would operate to collect or generate any useful amount of electricity, much less the 4,700 watts in one minute claimed by applicant (specification, p.23, lines 8-10). Applicant is requested to supply a working model and evidence of such operation.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.



Art Unit: 2834

11. Claims 1-5 and 8, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Dehmelt et al. (US 3,257,570). Dehmelt teaches a "transducer" comprising a semiconductive P-N junction treated with radioactive rays such as radioactive palladium 107 to raise more electrons to be raised from the valence band to the conduction band (c.2, lines 3-14). Oscillating waves and voltages are applied to the semiconductor in the form of beta radiation bombarding the P-N junction (c.2, lines 38-40). The P-N junction transforms the radiation into voltage at the junction. The P-N junctions of Dehmelt are equivalent to applicant's "semi-conductor valves," "capacitors," "transformers" or "diodes."

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Logan et al. (US 5,043,739) in view of Dehmelt et al. Logan teaches a high frequency "rectenna" comprising semiconductors such as field emission diodes for collecting and rectifying electromagnetic waves, e.g., micro-waves or waves of higher frequency. Logan does not teach using "radioactively transformed" circuit components. First and second antenna halves comprise semiconductor sections 1 and 3 (Figs.1&2).

Art Unit: 2834

Dehmet teaches a "transducer" comprising a semiconductive P-N junction treated with radioactive rays such as radioactive palladium 107 to raise more electrons to be raised from the valence band to the conduction band (c.2, lines 3-14).

It would have been obvious to modify Logan and provide a semiconductive junction doped with radioactive material per Dehmet since it would have been desirable to raise more electrons to be raised from the valence band to the conduction band and thus improve current generation.

### *Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brown teaches a space vehicle in which microwaves are used to transmit power. Edling teaches an atomic battery. Brown teaches a semi-conductor doped with radioactive isotopes. Fowler teaches a radiation-to-electrical energy converter.

15. An examination of this application reveals that applicant is unfamiliar with patent prosecution procedure. While an inventor may prosecute the application, lack of skill in this field usually acts as a liability in affording the maximum protection for the invention disclosed. Applicant is advised to secure the services of a registered patent attorney or agent to prosecute the application, since the value of a patent is largely dependent upon skilled preparation and prosecution. The Office cannot aid in selecting an attorney or agent.

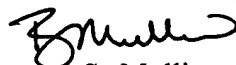
Applicant is advised of the availability of the publication "Attorneys and Agents Registered to Practice Before the U.S. Patent and Trademark Office." This publication is for

Art Unit: 2834

sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.

  
Burton S. Mullins  
Primary Examiner  
Art Unit 2834

bsm  
August 29, 2002